



Draft Osh Kosh white paper
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Here is my thinking, as I have been advised by our team.

I am sharing it, but it may be changed after review by management and ORC attorney.

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DRAFT ONLY

This letter is in follow-up to our earlier comment letter on the draft Wisconsin Pollutant Discharge Elimination System Permit for the City of Osh Kosh, Wisconsin that was provided on June 28, 2012. In our comments on the draft permit, we noted the blending authorization language which was inconsistent with Federal requirements. Since those earlier comments, WDNR has agreed to mutually agreed upon interim period permit language with respect to blending, as related to USEPA comments on the WDNR pending draft SSO/Blending/CMOM rule. In discussion between the WDNR permit writer for Osh Kosh, Richard Sachs, and John Wiemhoff, Mr. Sachs indicates that the permit is being revised to be consistent with our mutually agreed upon interim blending language. We appreciate WDNR's efforts in this regard. However, we have identified at least one key issue that remains unresolved and one minor issue included in Enclosure A. WDNR should not issue the Osh Kosh permit until the following issue is resolved and EPA has concurred in writing on the terms of a proposed permit.

Total Phosphorus Limitation:

EPA remains concerned that the water quality--based effluent limit (WQBEL) for phosphorus accounts for the Upper Fox River phosphorus, but does not at this time factor in the impaired waters of Lake Winnebago which is only 1.25 miles downstream, or consider the impaired Lower Fox River further downstream of Lake Winnebago.

WDNR's WQBEL Calculations:

The WQBEL documentation provided by WDNR determines the WQBEL based exclusively on the Fox River:

1. WQ criteria for the Fox River, in vicinity of Osh Kosh, per NR 102.06(a)(14) is 100 ug/l * (0.1 mg/l)
2. The median of 13 sampled P concentrations taken in the Fox River near the Osh Kosh outfall = 85 ug/l * (0.085 mg/l)
3. The 7_{02} in the Fox River = 1,350 cfs
4. The design flow of the Osh Kosh WWTP is 20 MGD (31 cfs)
5. The WDNR calculated P WQBEL, based on the mass balanced calculations within the Upper Fox River in the vicinity of Osh Kosh's outfall, using the above data, is 0.75 mg/l.
6. Based on the above, and information on the historical WWTP sampled P levels of 0.67 mg/l from the WWTP's effluent, the plant can meet the WQBEL (proposed effluent limitation) of **0.75 mg/l**.

* Note: this stretch of the Fox River from the Osh Kosh outfall to Lake Winnebago is not impaired for phosphorus

WDNR Rules which Consider Downstream Waters:

Wisconsin rule NR 217.12 provides for WQBELs to factor in either the receiving water or downstream waters.

Wisconsin rule NR 217.13 indicates that WQBELs for phosphorus "shall be calculated based on the applicable phosphorus criteria in s. NR 102.06 at the point of discharge, except the department may calculate the limitation to protect downstream waters."

Lake Winnebago:

Lake Winnebago's water quality limit for phosphorus is 0.040 mg/l. In the review of phosphorus sampling data for Lake Winnebago provided by WDNR from the period of 2008 through 2012, from the 103 samples analyzed, the calculated average phosphorus value in Lake Winnebago for this period is 0.11 mg/l, significantly higher than the Lake's 0.04 mg/l water quality standard. In addition, the TMDL approved for the Lower Fox River, which considers the stretch of river from Lake Winnebago to Green Bay, assumes a 40% reduction in phosphorus and TSS loads coming from Lake Winnebago.

Note 1: Lake Winnebago has been on the approved 303d list for 1998, 2002, 2004, 2006, 2008, and the draft 2010 and 2012 lists.

Note: 2: Regarding TP data for Lake Winnebago, the TMDL focused on loads, not concentrations, and used data from USGS. Estimated baseline average annual loads (for the years 1989-2006) entering the Lower Fox River Basin at the outlet of Lake Winnebago were derived from a regression equation developed by Dale Robertson of the U.S. Geological Survey (unpublished data produced for the Lower Fox River TMDL project by Dale Robertson of the USGS in 2008; methods provided in Robertson and Saad, 1996 and Robertson, 1996). Figure 25 in this document provides a summary of

these average annual loads; the average of all years was used in the TMDL analysis. It should also be noted that the summer median TP concentration of inflow from Lake Winnebago is 0.093 mg/L. The estimated baseline average annual load from Lake Winnebago was also routed to the main stem and Lower Green Bay.

Related Public Comments:

The lack of factoring Lake Winnebago into the current QBEL calculations has generated a significant public comment” from Midwest Environmental Advocates, as included in the excerpt below:

Midwest Environmental Advocates’ Comment 1: The Department should consider the discharge’s impact on the phosphorus-impaired water directly downstream and calculate the City of Oshkosh’s phosphorus QBEL to protect the downstream water.

WDNR Response: Pursuant to s. NR 217.13 (b), Wis. Adm. Code, the Department must calculate QBELs based on applicable phosphorus criteria at the point of discharge, except the Department may calculate limits to protect downstream waters. The latter approach is optional. While Department guidance recommends phosphorus QBELs be based on downstream water quality criteria when the discharge is upstream of a reservoir or lake, the guidance does not supersede the Department’s decision to develop a water quality management plan with total maximum daily loads that address both point and nonpoint sources rather than imposing QBELs based on downstream water quality criteria on individual point sources. It is also noted that, as a measure of protection of Lake Winnebago, a phosphorus mass effluent limit is included in the permit. No changes were made to the permit as a result of this comment.

Midwest Environmental Advocates’ Comment 2: The Department cannot avoid setting a QBEL protective of Lake Winnebago because a TMDL model has yet to be developed.

Response: The Department has considered, and continues to take seriously, the impacts of phosphorus loading to Lake Winnebago from all point sources and nonpoint sources in the Upper Fox and Wolf River Basins. Monitoring and modeling in those basins are currently underway with the goal of having an approved water quality management plan with total maximum daily loads (TMDL) in the near future.

* The Department believes that the TMDL process is the most economically efficient and expedient method to attain phosphorus water quality standards in Lake Winnebago and its watershed, and has decided to implement such a process rather than impose QBELs based on downstream water quality criteria on individual point sources. No changes were made to the permit as a result of this comment.

WDNR’s Current Strategy:

1. WDNR has indicated that they recognize that phosphorus controls may need to be tightened beyond the current proposed 0.75 mg/l total phosphorus limit and 130 pounds per day mass limit (calculated based on 20 MGD DAF);
2. WDNR has indicated that the Upper Fox TMDL is scheduled to be completed in late 2014;
3. WDNR has indicated that rather than set individual POTW limits prior to the completion of the Upper Fox TMDL, they would rather use the Upper Fox TMDL to inform as to the proper limits for the watershed, then set appropriate tighter total phosphorus limits if needed, or factor in trading or adaptive management.
4. In summary, WDNR does not wish to undertake a comprehensive phosphorus assessment on each individual dischargers of the upper Fox/Wolf River, but wait until the TMDL is complete for the upper Fox/Wolf River (in which they estimate that the TMDL would be done in 2014);

5. WDNR wishes to use that completed TMDL for the upper Fox River to determine the P limits for all the dischargers in the upper Fox River watershed in the next permit cycle to be initiated, in this case Osh Kosh in 2017.